



SEQUENCE LISTING

<110> Stinson, Jeffrey R.  
Wong, Hing  
O' Brien, Alison D.  
Schmitt, Clare K.  
Melton-Celsa, Angela

<120> Humanized Monoclonal Antibodies That  
Protect Against Shiga Toxin Induced Disease

<130> 50111/043002

<140> 09/215,163

<141> 1998-12-18

<150> 60/068,635

<151> 1997-12-23

<160> 44

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 1

atttcaggcc cagccggcca tggccgargt rmagctksak gagwc

45

<210> 2

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 2

atttcaggcc cagccggcca tggccgargt ycarctkcar caryc

45

<210> 3

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 3

atttcaggcc cagccggcca tggcccaggt gaagctksts gartc 45

<210> 4

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 4

atttcaggcc cagccggcca tggccgargt rmagctksak gagwc 45

<210> 5

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 5

atttcaggcc cagccggcca tggcccaggt bcarctkmar sartc 45

<210> 6

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 6

gaartavccc ttgaccaggc 20

<210> 7

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 7

ggaggcggcg gttctgacat tgtgmtgwcm cartc 35

<210> 8

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 8

ggaggcggcg gttctgatrt tkygatgacb carrc 35

<210> 9  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 9  
 ggaggcggcg gttctgayat ymagatgacm cagwc 35  
  
 <210> 10  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 10  
 ggaggcggcg gttctsaaat tgwktsacy cagtc 35  
  
 <210> 11  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 11  
 ttcataggcg gccgcactag tagcmcgttt cagytccarc 40  
  
 <210> 12  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 12  
 ttcataggcg gccgcactag tagcmcgttt katytccarc 40  
  
 <210> 13  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 13  
 gcacctccag atgttaactg ctc 23  
  
 <210> 14  
 <211> 49

<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 14  
 cttgatcgcg acagctacag gtgtccactc ccaggtgcag ctgcaggag 49  
  
 <210> 15  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 15  
 ggtatggaat tctgaggaga ctgtgagagt ggtgcc 36  
  
 <210> 16  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 16  
 ggttctgata tcgtgatgtc ccagtctcac aaattc 36  
  
 <210> 17  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 17  
 gacatattcg aaaagtgtac ttacgtttca gctccagact gg 42  
  
 <210> 18  
 <211> 366  
 <212> DNA  
 <213> Shigella dysenteriae  
  
 <400> 18  
 caggtgcagc tgcaggagtc tggggctgag ctggtgaggt ctggggcctc agtgaggatg 60  
 tcctgcaagg cttctggcta cacatttacc agttacaata tgcactgggt aaaacagaca 120  
 cctggacagg gcttggaatg gattggatat atttatcctg gaaatggtgg tactaactac 180  
 attcagaaat ttaagggcaa ggccatattg actgcagaca catcctccag cacagcctac 240  
 atgcagatca gcagtctgac atctgaagac tctgcggtct atttctgtac aagaagtccc 300  
 tctcactaca gtagtgacct ctactttgac tactggggcc agggcaccac tctcacagtc 360  
 tcctca 366  
  
 <210> 19

<211> 122  
 <212> PRT  
 <213> Shigella dysenteriae

<400> 19  
 Gln Val Gln Leu Gln Glu Ser Gly Ala Glu Leu Val Arg Ser Gly Ala  
 1 5 10 15  
 Ser Val Arg Met Ser Cys Asp Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
 20 25 30  
 Asn Met His Trp Val Lys Gln Thr Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45  
 Gly Tyr Ile Tyr Pro Gly Asn Gly Gly Thr Asn Tyr Ile Gln Lys Phe  
 50 55 60  
 Lys Gly Lys Ala Ile Leu Thr Ala Asp Thr Ser Ser Ser Thr Ala Tyr  
 65 70 75 80  
 Met Gln Ile Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
 85 90 95  
 Thr Arg Ser Pro Ser His Tyr Ser Ser Asp Pro Tyr Phe Asp Tyr Trp  
 100 105 110  
 Gly Gln Gly Thr Thr Leu Thr Val Ser Ser  
 115 120

<210> 20  
 <211> 324  
 <212> DNA  
 <213> Shigella dysenteriae

<400> 20  
 gatatcgtga tgtccagtc tcacaaattc atgtccacat cagtcggaga cagggtcagc 60  
 atcacctgta aggccagcca ggatgtgggt actgctggtg cctgggtatca gcagaatcca 120  
 ggacaatctc ctaaatttct gatttactgg gcatccacac ggcacactgg agtccctgat 180  
 cgcttcacag gcagtggtatc tgggacagat ttactctca ccattaccaa tgtgcagtct 240  
 gaagacttgg cagattatct ctgtcagcaa tatagcagtt atcctctcac gttcgggtgct 300  
 gggaccagtc tggagctgaa acgt 324

<210> 21  
 <211> 108  
 <212> PRT  
 <213> Shigella dysenteriae

<400> 21  
 Asp Ile Val Met Ser Gln Ser His Lys Phe Met Ser Thr Ser Val Gly  
 1 5 10 15  
 Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Gly Thr Ala  
 20 25 30  
 Val Ala Trp Tyr Gln Gln Asn Pro Gly Gln Ser Pro Lys Phe Leu Ile  
 35 40 45  
 Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Asn Val Gln Ser  
 65 70 75 80  
 Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Ser Ser Tyr Pro Leu  
 85 90 95  
 Thr Phe Gly Ala Gly Thr Ser Leu Glu Leu Lys Arg  
 100 105

<210> 22  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 22  
 atttcaggcc cagccggcca tggccgargt rmagctksak gagwc 45  
  
 <210> 23  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 23  
 atttcaggcc cagccggcca tggccgargt ycarctkcar caryc 45  
  
 <210> 24  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 24  
 atttcaggcc cagccggcca tggcccaggt gaagctksts gartc 45  
  
 <210> 25  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 25  
 atttcaggcc cagccggcca tggccgavgt gmwgctkgtg gagwc 45  
  
 <210> 26  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 26  
 atttcaggcc cagccggcca tggcccaggt bcarctkmar sartc 45  
  
 <210> 27

<211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 27  
 gaartavccc ttgaccaggc 20  
  
 <210> 28  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 28  
 gctgccaccg ccacctgmrg agacdgtgas tgarg 35  
  
 <210> 29  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 29  
 gctgccaccg ccacctgmrg agacdgtgas mgtrg 35  
  
 <210> 30  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 30  
 gctgccaccg ccacctgmrg agacdgtgas cagrg 35  
  
 <210> 31  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic Oligonucleotide  
  
 <400> 31  
 ggaggcggcg gttctgacat tgtgmtgwcw cartc 35  
  
 <210> 32  
 <211> 35  
 <212> DNA

<213> Artificial Sequence  
 <220>  
 <223> Synthetic Oligonucleotide  
 <400> 32  
 ggaggcggcg gttctgatrt tkygatgacb carrc 35  
 <210> 33  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic Oligonucleotide  
 <400> 33  
 ggaggcggcg gttctgayat ymagatgacm cagwc 35  
 <210> 34  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic Oligonucleotide  
 <400> 34  
 ggaggcggcg gttctsaaat tgwktsacy cagtc 35  
 <210> 35  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic Oligonucleotide  
 <400> 35  
 ttcataggcg gccgcactag tagcmcgttt cagytccarc 40  
 <210> 36  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic Oligonucleotide  
 <400> 36  
 ttcataggcg gccgcactag tagcmcgttt katytccarc 40  
 <210> 37  
 <211> 52  
 <212> DNA  
 <213> Artificial Sequence



<220>  
 <223> Synthetic Oligonucleotide

<400> 37  
 atatactcgc gacagctaca ggtgtccact ccgaagtcca actgcaacag cc 52

<210> 38  
 <211> 34  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic Oligonucleotide

<400> 38  
 attaatgaat tctgcggaga cggtgagagt ggtc 34

<210> 39  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic Oligonucleotide

<400> 39  
 ttaaatagata tcgtgctgtc acaatctcc 29

<210> 40  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic Oligonucleotide

<400> 40  
 taatcgttcg aaaagtgtac ttacgtttca gttccagctt ggtcc 45

<210> 41  
 <211> 339  
 <212> DNA  
 <213> Shigella dysenteriae

<400> 41  
 gacattgtgc tgtcacaatc tccatcctcc ctagttgtgt cagttggaga gaaggttact 60  
 atgagctgca agtctagtca ggcctttta tatagtagaa atcaaaagaa ctacttggcc 120  
 tggtagcagc agaaaccagg gcagtctcct aaagtgtga ttactgggc atctactagg 180  
 gaatctgggg tccctgatcg cctcacaggc agtggatctg ggacagattt cactctcacc 240  
 atcagcagtg tgaaggctga agacctggca gtttattact gtcagcaata ttatagttat 300  
 ccgctcacgt tcggtgctgg gaccaagctg gagctgaaa 339

<210> 42  
 <211> 113  
 <212> PRT  
 <213> Shigella dysenteriae

<400> 42

Asp Ile Val Leu Ser Gln Ser Pro Ser Ser Leu Val Val Ser Val Gly  
1 5 10 15  
Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30  
Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45  
Ser Pro Lys Val Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Leu Thr Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln  
85 90 95  
Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu  
100 105 110  
Lys

<210> 43

<211> 357

<212> DNA

<213> Shigella dysenteriae

<400> 43

gaagtccaac tgcaacagcc tggacctgag ctggagaagc ctggcgcttc agtgaaacta 60  
tcctgcaagg cttctgggta ctctttcact gactacaaca tgaactgggt gaagcagaac 120  
aatggagaga gccttgagtg gattggaaaa attgatcctt actatgggtg tcctagctac 180  
aaccagaagt tcaaggacaa ggccacattg actgtagaca agtcttccag cacagcctac 240  
atgcagttca agagcctgac atctgaggac tctgcagtct attactgtac aagaggggga 300  
aataggggact ggtacttcga tgtgtggggc gcagggacca cgctcaccgt ctccgca 357

<210> 44

<211> 119

<212> PRT

<213> Shigella dysenteriae

<400> 44

Glu Val Gln Leu Gln Gln Pro Gly Pro Glu Leu Glu Lys Pro Gly Ala  
1 5 10 15  
Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asp Tyr  
20 25 30  
Asn Met Asn Trp Val Lys Gln Asn Asn Gly Glu Ser Leu Glu Trp Ile  
35 40 45  
Gly Lys Ile Asp Pro Tyr Tyr Gly Gly Pro Ser Tyr Asn Gln Lys Phe  
50 55 60  
Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Ala Tyr  
65 70 75 80  
Met Gln Phe Lys Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
85 90 95  
Thr Arg Gly Gly Asn Arg Asp Trp Tyr Phe Asp Val Trp Gly Ala Gly  
100 105 110  
Thr Thr Leu Thr Val Ser Ala  
115